

CHAPTER 3 TEST REVIEW

$$(1) f(x) = (x+8)(x+6)$$

$$F(\text{FIRST TERMS}) = x \cdot x = x^2$$


$$O(\text{OUTSIDE TERMS}) = x \cdot 6 = 6x$$

$$I(\text{INSIDE TERMS}) = 8x$$

$$L(\text{LAST TERMS}) = 8 \cdot 6 = 48$$

$$x^2 + 6x + 8x + 48 = 1 \cdot x^2 + 14x + 48$$
$$ax^2 + bx + c$$

$$\begin{aligned} a &= 1 \\ b &= 14 \\ c &= 48 \end{aligned}$$

$$(2) \quad f(x) = (3x+7)(4x-5)$$


$$F: 3x \cdot 4x = 12x^2$$

$$O: 3x(-5) = -15x$$

$$I: 7 \cdot 4x = 28x$$

$$L: 7 \cdot (-5) = -35$$

$$a=12, b=13, c=-35$$

$$f(x) = 12x^2 - 15x + 28x - 35 = 12x^2 + 13x - 35$$
$$ax^2 + bx + c$$

③

$$3x^2 = 9$$

$\div 3 \quad \div 3$

$$x^2 = 3; \sqrt{x^2} = \sqrt{3}$$

$$x_1 = -\sqrt{3}; x_2 = \sqrt{3}$$

$$x_1 = -1.73; x_2 = 1.73$$

$$\textcircled{4} \quad 4(x-5)^2 - 216 = 0$$

$\quad \quad \quad +216 \quad \quad +216$

$$4(x-5)^2 = 216$$

$\div 4 \quad \quad \quad \div 4$

$$(x-5)^2 = \frac{216}{4}$$

1

$$\sqrt{(x-5)^2} = \pm \sqrt{\frac{216}{4}} = \pm \frac{\sqrt{216}}{\sqrt{4}} = \pm \frac{\sqrt{216}}{2}$$

$$x-5 = \pm \frac{\sqrt{216}}{2} = \pm \frac{\sqrt{6 \cdot 36}}{2}$$

$$x-5 = \pm \frac{\sqrt{6} \sqrt{36}}{2} = \pm \frac{(\sqrt{6}) \cdot 6}{2}$$

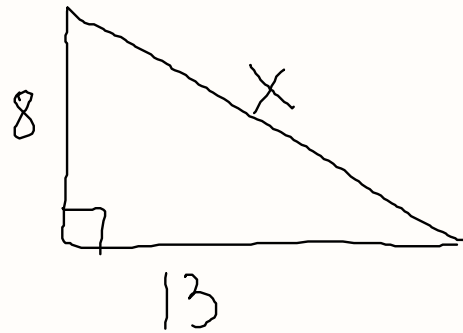
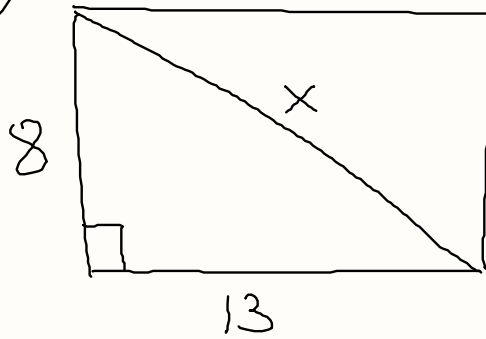
$$\begin{array}{cc} x-5 & = & 3\sqrt{6} \\ +5 & & +5 \end{array}$$

$$x_1 = 5 + 3\sqrt{6}$$

$$\begin{array}{cc} x-5 & = & -3\sqrt{6} \\ +5 & & +5 \end{array}$$

$$x_2 = 5 - 3\sqrt{6}$$

(5)



$$c^2 = a^2 + b^2$$

↑
IS THE LONGEST
SIDE

$$x^2 = 13^2 + 8^2$$
$$x = \sqrt{169 + 64} =$$
$$\approx 15.26$$

$$\sqrt{(13^2 + 8^2)}$$

$$(6.) \quad f(x) = x^2 - x - 30 = 0 \quad \underline{-1} \quad \underline{30}$$

$$-6 + 5 = \underline{-1}$$

$$(-6) \cdot 5 = \underline{-30}$$

$$(x-6)(x+5) = 0$$

$$\begin{array}{r} x-6=0 \\ +6 \quad +6 \end{array}$$

$$x_1 = 6$$

$$\begin{array}{r} x+5=0 \\ -5 \quad -5 \end{array}$$

$$x_2 = -5$$

$$\textcircled{7} \quad 2x^2 + 16x + 32 = 0$$

$$2(x^2 + \underline{8x} + \underline{16}) = 0$$

MULTIPLIES OF 16:

$$1, 16; 4, 4; 2, 8$$

$$4 + 4 = \underline{8}$$

$$4 \cdot 4 = \underline{16}$$

$$(x+4)(x+4) = 0$$

$$\begin{array}{l} x+4=0 \\ -4 \quad -4 \end{array}$$

$$x_1 = -4$$

$$\begin{array}{l} x+4=0 \\ -4 \quad -4 \end{array}$$

$$x_2 = -4$$